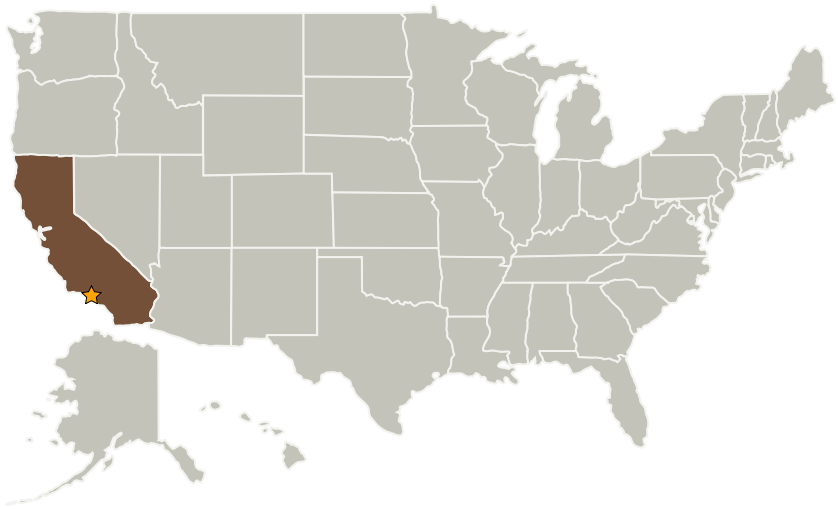
High Performance Wafer-Based Capillary Electrochromatography, Phase I

Completed Technology Project (2004 - 2004)

Project Introduction

Los Gatos Research proposes to develop wafer-based capillary electrochromatography for lab-on-a-chip (LOC) applications. These microfluidic devices will be engineered for integration with chemical and biomolecular LOC detector systems. For Phase I, a chip-based capillary electrochromatography system will be constructed and tested. The Phase I Research will address issues related to the performance of, as well as production methods that can be used for the technology. An integrated microfluidic system will be designed, and specifications for the Phase II Prototype will be determined. The suitability of the technology for present NASA LOC applications will be assessed, and relevant commercial markets and products will be identified. Commercial devices based on the Phase II prototype will be constructed and commercialized during Phase III.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
Los Gatos Research	Supporting Organization	Industry	Mountain View, California

High Performance Wafer-Based Capillary Electrochromatography, Phase I

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

High Performance Wafer-Based Capillary Electrochromatography, Phase I

Completed Technology Project (2004 - 2004)

Primary U.S. Work Locations
California

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Hong Jiao

Technology Areas

Primary:

- TX14 Thermal Management Systems
  - TX14.1 Cryogenic Systems
    - TX14.1.2 Launch Vehicle Propellant